

ABSTRACT

An expandable frame for an embolic filtering device used to capture embolic debris in a body vessel includes a first half frame having a first control arm connected to a second control arm by a partial loop and a second half frame having a first control arm connected to a second control arm by a partial loop. The partial loops cooperatively form a composite loop for attachment of a filtering element which will expand in the body vessel to capture embolic debris entrained in the fluid of the vessel. The expandable frame and filtering element can be mounted on a filter support structure, such as a coiled wire, and mounted on a guide wire. The expandable frames include an articulation region which helps to distribute the strain which can be developed when the frame moves between an expanded and deployed position. The expandable frame may include further strain distributing bends which help distribute strain and increase the bendability of the frame. A modified torque device with extension arm prevents guide wire damage, prevents distal propagation of the peeling action and facilitates filter deployment during operation.